Saskatchewan
Highways and
Transportation

2005 Ferry Traffic and Seasonal/Winter Roads

Annual Report

Infrastructure and Land Branch
Policy and Programs Division

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Executive Summary

This report summarizes traffic data collected at the 12 cable-stayed ferries and one free swimming ferry barge operated by the Department of Highways and Transportation during 2005. The report provides an analysis of passenger and vehicle volumes as well as traffic composition. Information about four seasonal roads operated by the Department is also included.

The main findings of the 2005 report are listed below.

- The 2005 ferry operating season length was similar to the 2004 season.
- All cable-stayed ferries, except Riverhurst, were shutdown in June and/or July because of high water levels.
- The shutdown period ranged from a low of 3.5 % of the operating season at Cecil to a high of 19.8 % at Hague.
- The 2005 ADT was 2 % lower than the 2004 ADT
- The 2005 ADT at Lancer and Fenton increased by over 10 % and by over 5 % at Clarkboro and Cecil compared with the 2004 ADT.
- The 2005 ADT at Riverhurst and Paynton dropped by over 10 % and by over 5 % at Wingard and Hague compared with the 2004 ADT.
- The Clarkboro ferry had the highest traffic volume.
- Only the St. Laurent, Hague and Clarkboro ferries had increased truck percentages in 2005 compared with 2004.
- All four seasonal/winter roads were in operation during 2005.

The 2005 report recommends:

- When the operating agreement for the Wollaston Barge ferry is renegotiated, the operators be required to collect passenger volumes and to use the same vehicle classification system as the other ferries.

1.0 Introduction

This annual report provides a summary and analysis of the traffic using the provincial ferry system in 2005. Traffic data is reported for the thirteen Department owned ferry sites in 2005. This report examines vehicle types and historic traffic for each ferry. Useful insights into the function of each ferry can be obtained by examining the distribution and composition of ferry traffic. Passenger data for twelve of the ferry sites and operational information about the four seasonal/winter roads is also included in this report.

2.0 Background

The Department operated twelve cable-stayed ferries and one free swimming ferry barge during 2005. Cable-stayed ferries operated on the North Saskatchewan and South Saskatchewan Rivers and on Lake Diefenbaker. The single free swimming ferry operates on Wollaston Lake to serve the community of Wollaston Lake. Other than replacing the Cumberland ferry with a bridge in 1996, the ferry system has not changed since responsibility for the system was moved to the Department in 1992. Ferry locations are shown in the Table I below.

Table I. Ferry Locations

Ferry	Location	Department Region
Clarkboro	South Saskatchewan River	Central Region
Riverhurst	Lake Diefenbaker	Southern Region
Paynton	North Saskatchewan River	Central Region
Weldon	South Saskatchewan River	Northern Region
St. Laurent	South Saskatchewan River	Central Region
Cecil	North Saskatchewan River	Northern Region
Hague	South Saskatchewan River	Central Region
Wingard	North Saskatchewan River	Central Region
Lemsford	South Saskatchewan River	Southern Region
Estuary	South Saskatchewan River	Southern Region
Fenton	South Saskatchewan River	Northern Region
Lancer	South Saskatchewan River	Southern Region
Wollaston Barge	Wollaston Lake	Northern Region

Ferry traffic data was collected by the ferry operators and forwarded to the traffic engineers, who analyzed and compiled this annual report. The vehicle classification forms used by ferry operators are shown in Appendix A.

During the winter months, the Department operated four seasonal/winter roads, which have a total length of approximately 458 km. These roads provide access to isolated communities and seasonal industrial activities. The operational periods of the roads vary considerably from year to year because of weather conditions. Seasonal/winter road locations are shown in the Table II below.

Table II. Seasonal/Winter Road Locations

Road	Location	Length (km)	Region
Cumberland House	Hwy 9 to Cumberland House	52	Northern Region
Riverhurst	Hwy 42 across Lake Diefenbaker	2	Southern Region
Wollaston Lake	Hwy 905 to Wollaston Lake	46	Northern Region
Athabasca	Points North Landing to Uranium City	358	Northern Region

The locations of the ferries and seasonal/winter roads, including ice crossings, are shown on the map on the following page.

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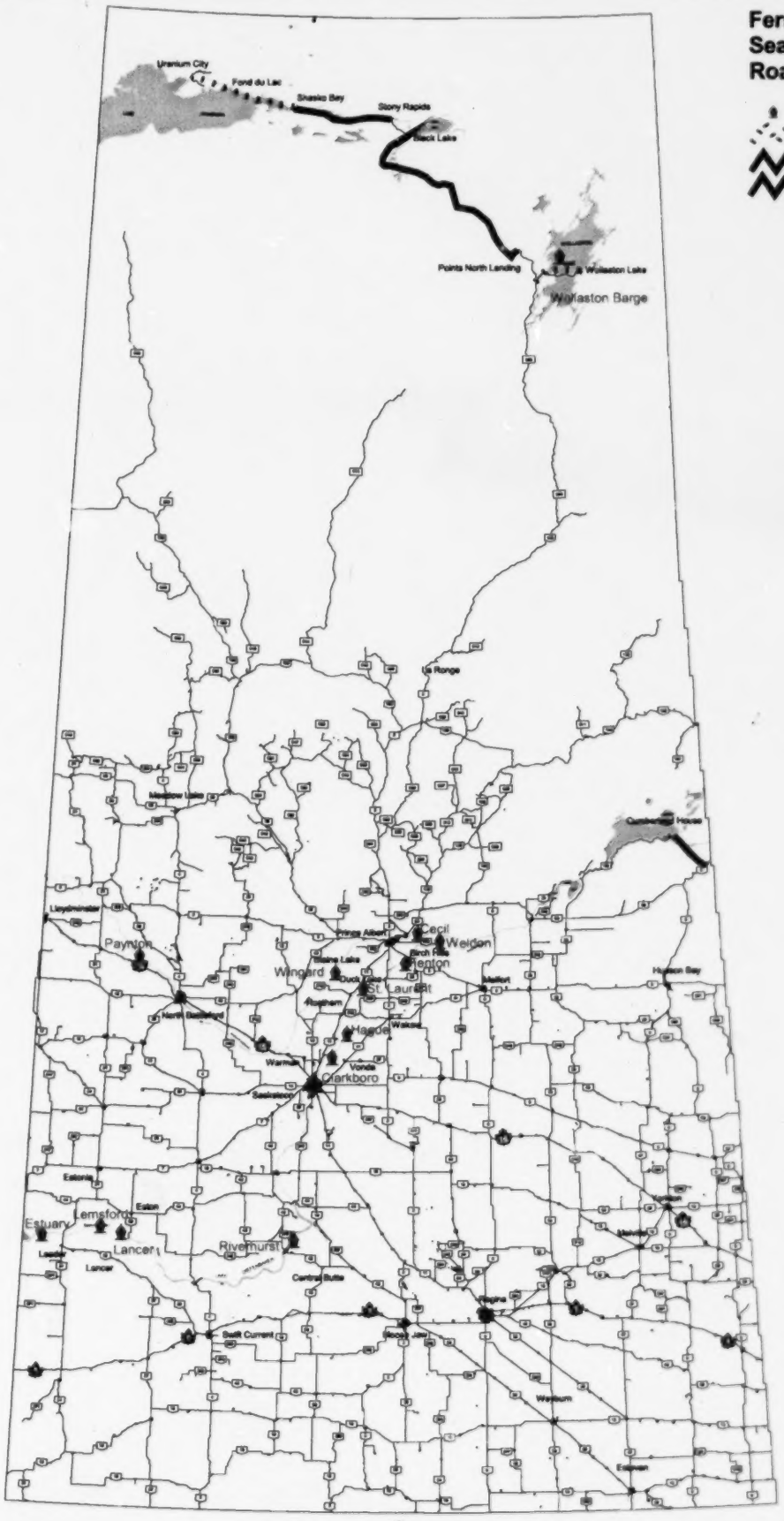


Ferry and Seasonal/Winter Road Locations

- Ferry Location
- Ice Crossing
- Seasonal Road
- Winter Road

3.0 Ferry Operating Seasons

All ferries, except the Riverhurst ferry and the Wollaston Barge ferry, operated 17 hours per day between the hours of 7:00 am and midnight. The Wollaston Barge ferry operated when a trip was booked, and the Riverhurst ferry operated 24 hours per day. Ferries did not run at times because of mechanical failure, bad weather or poor river conditions. Table III below summarizes the 2005 operational season including downtime at all ferries in the province. Details of the downtime periods and their causes are shown in Appendix B. The 2005 operating season was slightly longer than in 2004, but high water levels caused significantly more downtime in 2005.

Table III. 2005 Ferry Operating Season Statistics

Ferry	Season				Out of Service	
	Opening	Closing	Length (days)	Operating Hours	Hours	Percent
Clarkboro	20-Apr	29-Nov	223	3417	374	9.9
Paynton	21-Apr	09-Nov	202	3298	136	4.0
Riverhurst	22-Apr	20-Dec	242	5260	548	9.4
Weldon	27-Apr	15-Nov	202	3077	357	10.4
St. Laurent	22-Apr	29-Nov	221	3315	442	11.8
Cecil	27-Apr	12-Nov	199	3264	119	3.5
Wingard	22-Apr	12-Nov	204	3230	238	6.9
Lemsford	20-Apr	15-Nov	209	3236	317	8.9
Hague	26-Apr	29-Nov	217	2958	731	19.8
Fenton	28-Apr	15-Nov	201	3060	357	10.4
Estuary	22-Apr	15-Nov	207	2864	655	18.6
Lancer	20-Apr	14-Nov	208	2975	561	15.9
Wollaston Barge	04-Jul	26-Oct	114			

4.0 Volume, Passenger and Classification Summaries

Table IV below summarizes the 2005 monthly traffic at the ferry sites. Historic traffic volumes for these ferries are shown in Appendix C. The average number of vehicles using the ferry per day is represented by the Average Daily Traffic (ADT). Historic ADT is shown in Appendix D. ADT at the Riverhurst ferry and Wollaston Barge ferry should not be directly compared to other ferries. The Riverhurst ferry operated 24 hours a day whereas ADT for the other cable-stayed ferries was based on a 17 hour day.

Table IV. Monthly Ferry Traffic Volumes for the 2005 Season

Ferry	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total	ADT
Clarkboro	2,616	9,924	5,531	6,187	10,580	9,280	9,483	6,251	0	59,852	298
Paynton	1,304	5,048	3,510	5,707	5,408	4,375	4,556	1,247	0	31,155	161
Riverhurst	810	3,585	4,530	4,727	3,814	3,623	3,498	2,157	1,085	27,829	127
Weldon	291	4,710	3,093	2,974	4,778	4,470	4,358	1,450	0	26,124	144
St. Laurent	555	2,970	1,303	2,755	2,848	2,131	2,262	1,614	0	16,438	84
Cecil	139	2,433	1,630	2,492	2,549	1,988	2,273	647	0	14,151	74
Wingard	338	1,534	1,022	1,568	1,708	1,206	1,531	468	0	9,375	49
Lemsford	524	1,512	490	1,707	1,728	1,265	1,361	455	0	9,042	48
Hague	206	1,890	494	864	1,652	1,086	1,570	1,144	0	8,906	51
Fenton	101	1,507	687	858	1,323	1,237	1,419	606	0	7,738	43
Estuary	251	1,197	269	1,433	1,523	1,046	1,381	396	0	7,496	44
Lancer	307	1,158	175	840	1,102	1,032	1,388	459	0	6,461	37
Wollaston Barge	0	0	0	133	115	150	131	0	0	529	5
Totals	**7,442**	**37,468**	**22,734**	**32,245**	**39,128**	**32,889**	**35,211**	**16,894**	**1,085**	**225,096**	

Table V summarizes the 2005 monthly number of passengers for the cable-stayed ferry sites. Historic passenger volumes for these ferries are shown in Appendix E.

Table V. Monthly Ferry Passenger Volumes for the 2005 Season

Ferry	April	May	June	July	Aug	Sept	Oct	Nov	Dec	Total
Clarkboro	4,998	15,903	9,033	10,802	17,321	14,199	13,948	9,773	0	95,977
Paynton	2,100	8,540	6,482	10,325	9,898	7,534	7,351	1,870	0	54,100
Riverhurst	1,275	6,464	8,447	9,617	7,781	6,447	6,210	3,625	1,826	51,692
Weldon	535	9,331	6,245	5,578	10,228	8,802	8,474	2,642	0	51,835
St. Laurent	1,094	6,112	3,240	5,922	6,112	4,044	4,068	2,660	0	33,252
Cecil	195	3,912	2,811	4,369	4,337	3,196	3,624	1,071	0	24,015
Wingard	776	2,987	2,406	3,83[illegible]	4,571	2,525	3,283	921	0	21,305
Lemsford	837	2,484	825	3[illegible]	3,168	1,987	2,253	722	0	15,406
Hague	327	3,127	766	1,554	2,833	1,759	2,492	1,722	0	14,580
Fenton	155	2,478	1,021	1,473	2,395	2,021	2,086	888	0	12,517
Estuary	403	2,180	496	2,564	2,828	1,722	2,289	674	0	13,156
Lancer	458	1,869	279	1,381	1,852	1,918	2,159	778	0	10,694
Totals	**13,153**	**65,387**	**42,051**	**60,551**	**73,824**	**56,154**	**58,237**	**27,346**	**1,826**	**398,529**

Passenger volumes were first recorded in 2000, except for Riverhurst and St. Laurent where volumes have been recorded since 1996 and 2003 respectively.

Ferry operators record the type of vehicles using the ferries. The breakdown of vehicle types is summarized in the charts below. The Wollaston Barge ferry is not included in these graphs because it uses a unique classification scheme.

Chart 4.0A 2005 Straight Trucks by Location

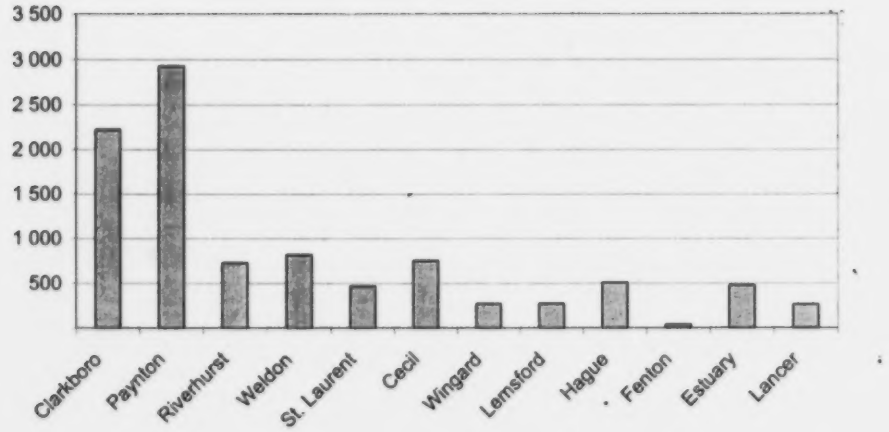


Chart 4.0B 2005 Single Trailer Trucks by Location

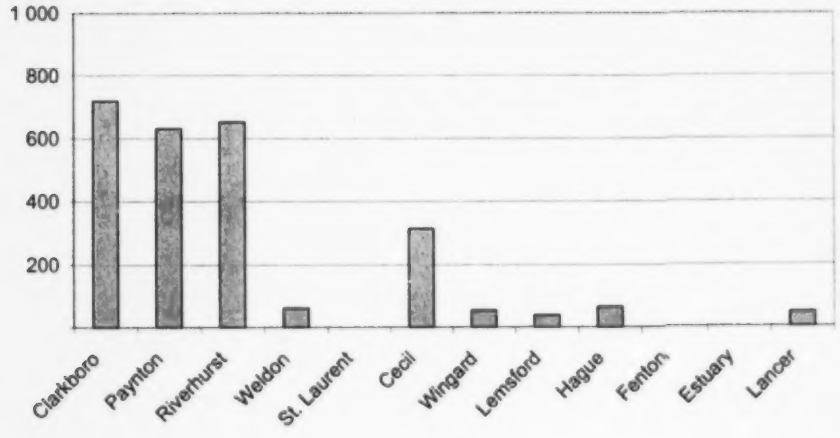
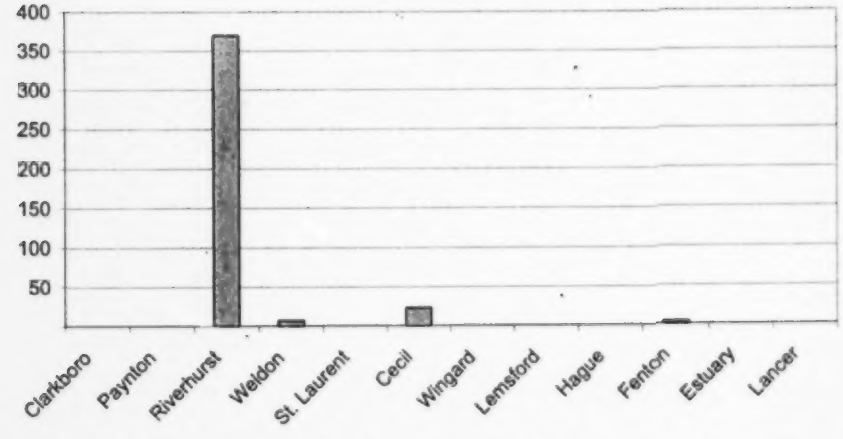
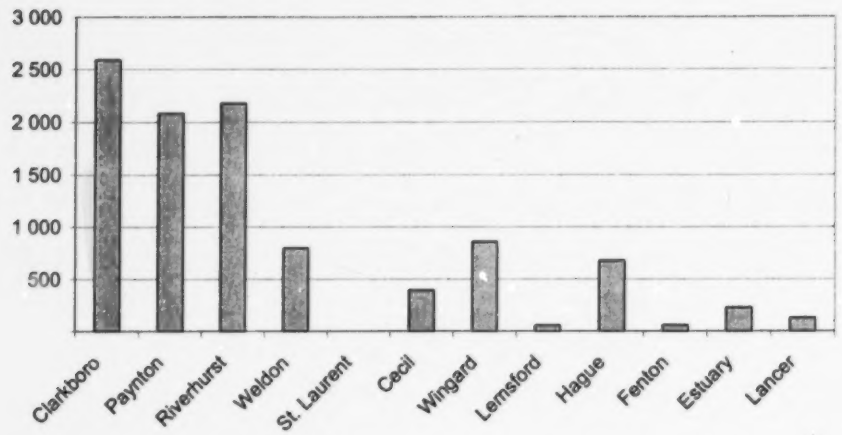


Chart 4.0C 2005 Multi Trailer Trucks by Location



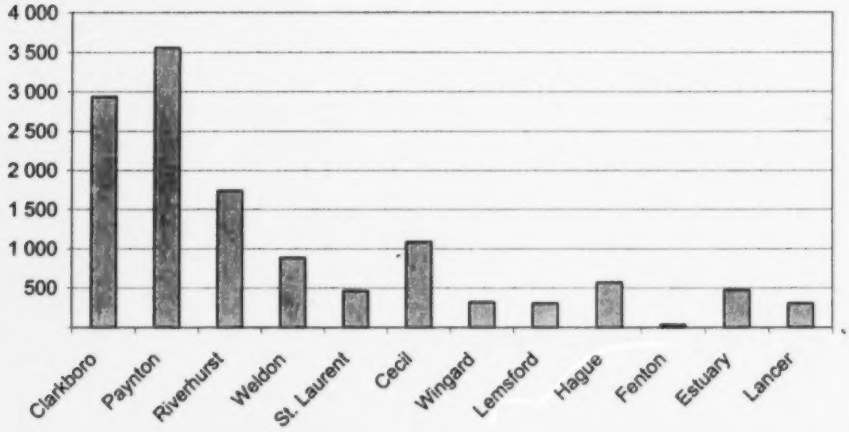
Most ferries are not long enough to accommodate multi trailer trucks.

Chart 4.0D 2005 Other Vehicles by Location



The vehicle category "other" normally refers to farm or construction equipment except near recreation areas, where they are often recreational vehicles or passenger vehicles pulling a boat or camping trailer.

Chart 4.0E 2005 Commercial Vehicles by Location



The commercial vehicles shown above only contains straight, single and multi trailer trucks. The "other" vehicles are not included because they are typically not hauling freight or commodities.

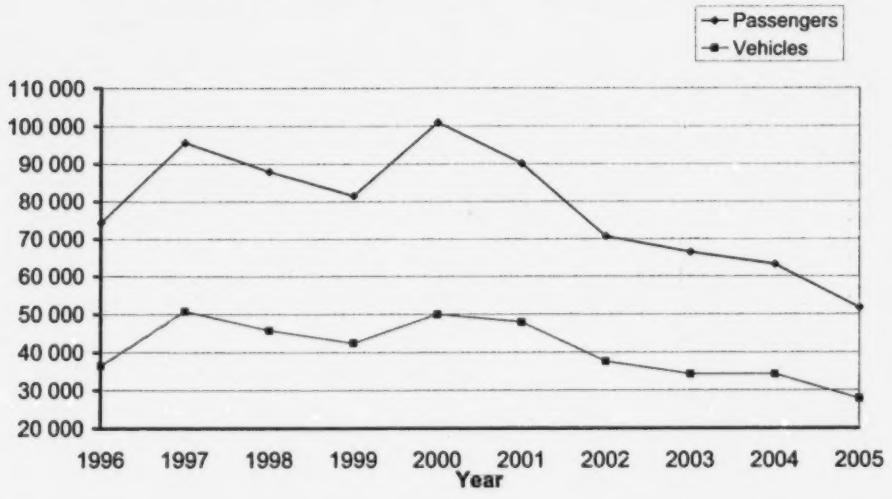
5.0 Site by Site Analysis

The ferry traffic data in this section are summarized by Department maintenance area. The area by area analysis results in six groupings: Moose Jaw, North Battleford, Prince Albert, Saskatoon, Swift Current and Wollaston.

5.1 Moose Jaw Area

The Moose Jaw area contains only the Riverhurst ferry, which is the largest and most sophisticated cable-stayed ferry in the province. This is the only ferry in the system located on a provincial highway. The Riverhurst ferry carries traffic on Highway 42 across the 2 km width of Lake Diefenbaker.

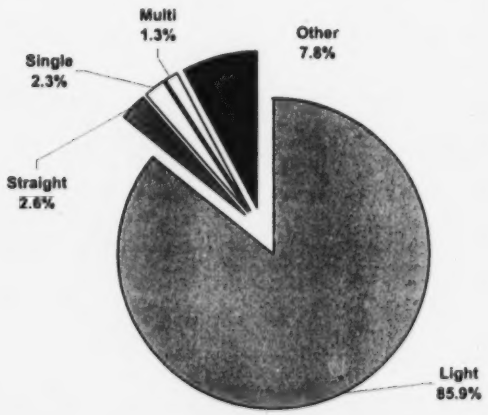
Chart 5.1A 10 Year History of Traffic on the Riverhurst Ferry



	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Vehicles	36 449	50 766	45 763	42 424	50 010	47 867	37 578	34 288	34 258	27 829
Passengers	74 355	95 671	87 956	81 526	100 979	90 056	70 700	66 422	63 193	51 692
ADT		213	190	174	216	204	176	169	153	127
Truck %			7.3	7.9	5.5	7.0	7.7	7.0	6.4	6.3

Traffic on the Riverhurst ferry was the lowest volume in the last 10 years. The 2005 ADT decreased by 17 % to a nine year low.

Chart 5.1B Vehicle Types Using the Riverhurst Ferry

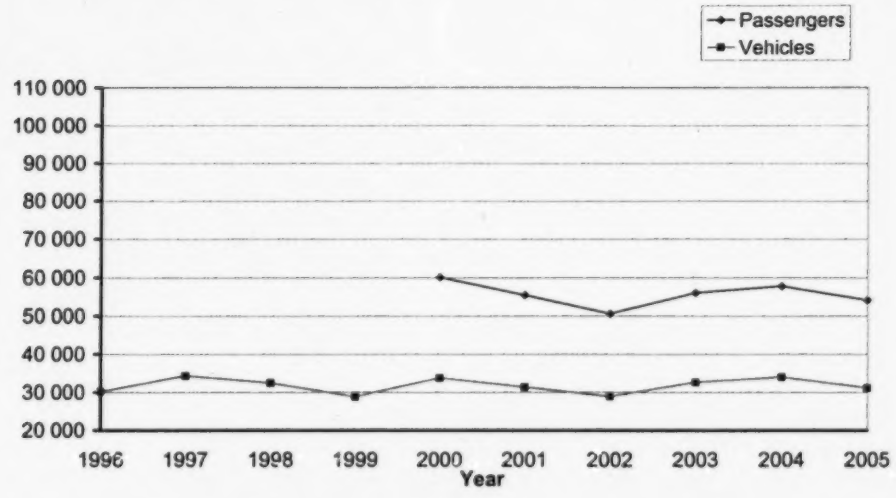


Riverhurst had a high percentage of "other" vehicles. At Riverhurst, "other" category usually refers to passenger vehicles pulling campers or boats, and other recreational vehicles.

5.2 North Battleford Area

The North Battleford area has only the Paynton ferry.

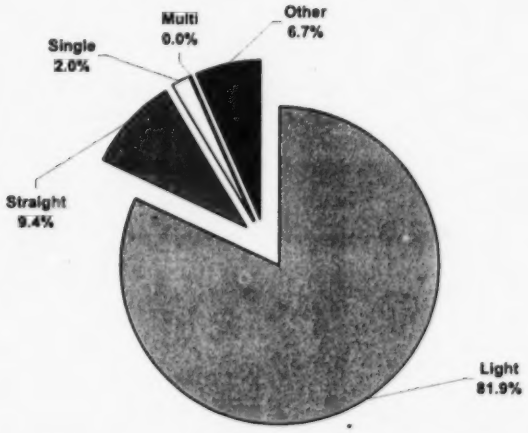
Chart 5.2A 10 Year History of Traffic on the Paynton Ferry



	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Vehicles	30 172	34 365	32 453	28 808	33 749	31 348	28 910	32 603	33 996	31 155
Passengers					60 119	55 475	50 577	56 014	57 743	54 100
ADT		210	159	141	170	158	167	175	180	161
Truck %			9.4	10.3	11.0	12.0	14.0	13.2	12.1	11.4

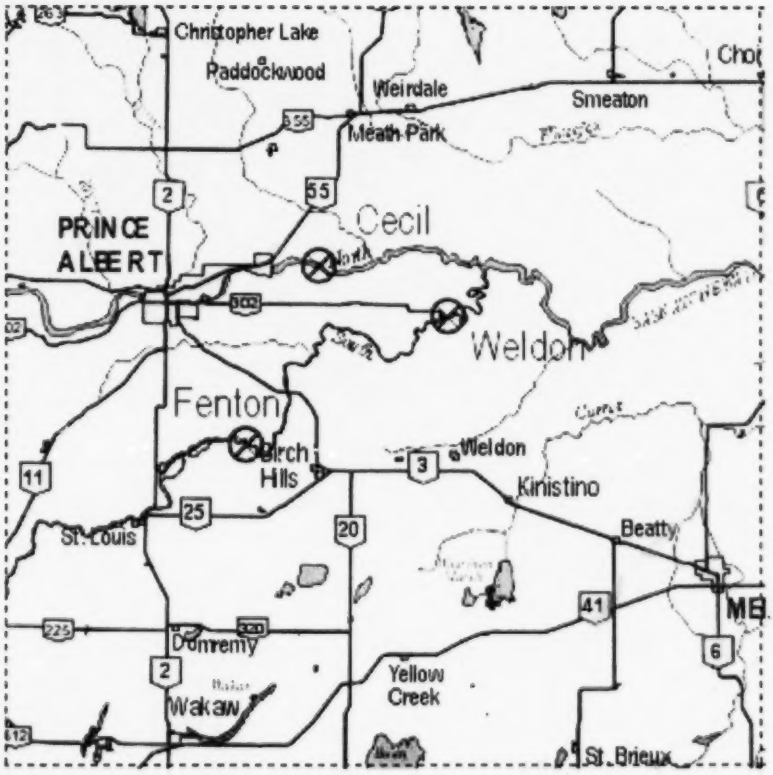
In 2005, the ADT decreased by 11 % to the lowest volume in the last four years.

Chart 5.2B Vehicle Types Using the Paynton Ferry



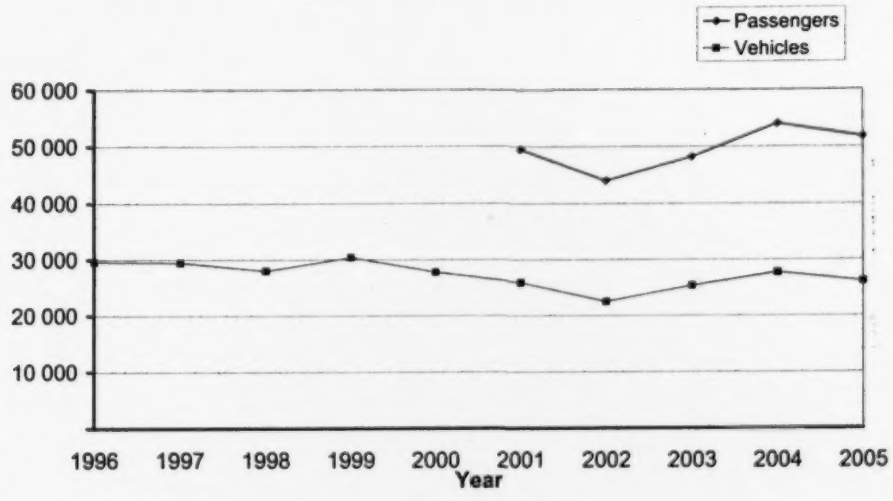
Paynton serves as a freight haul link to Highway 16, as demonstrated by the relatively high percentage of trucks that used the ferry in 2005. The percentage of trucks was the highest of all the cable-stayed ferries.

5.3 *Prince Albert Area*



The Prince Albert area includes the Weldon, Cecil and Fenton ferries.

Chart 5.3A 10 Year History of Traffic on the Weldon Ferry



	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Vehicles	29 657	29 455	28 003	30 382	27 770	25 875	22 461	25 308	27 709	26 124
Passengers						49 555	44 007	48 249	54 082	51 835
ADT		153	142	159	141	135	133	142	141	144
Truck %		7.8	4.8	5.1	4.5	5.2	3.8	5.9	3.8	3.4

In 2005, traffic on the Weldon ferry decreased by 6 % over 2004. The ADT was close to the nine year average.

Chart 5.3B Vehicle Types Using the Weldon Ferry

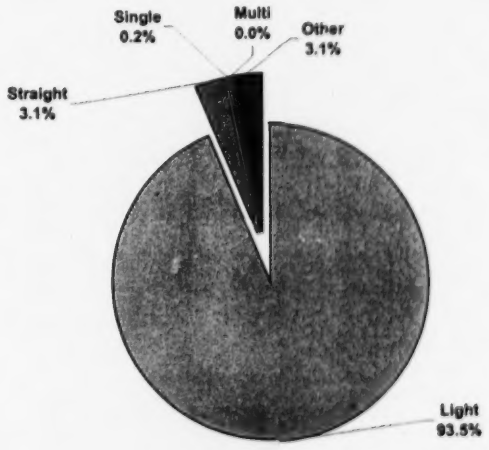
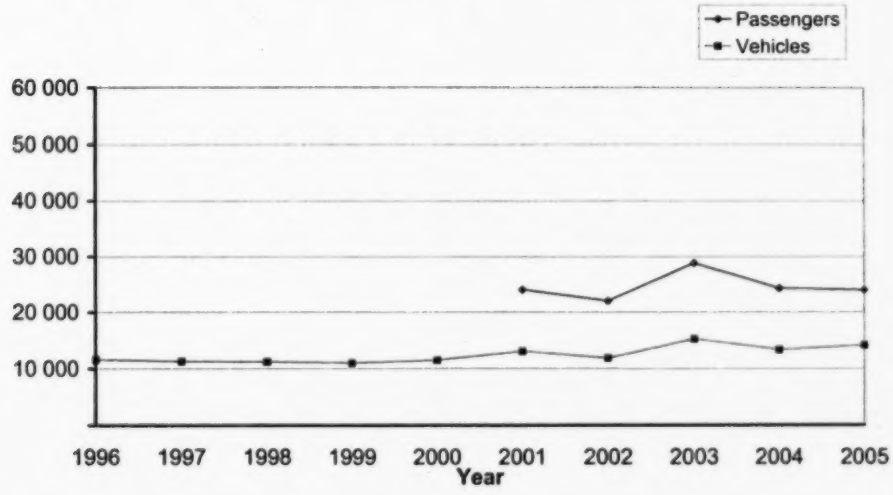


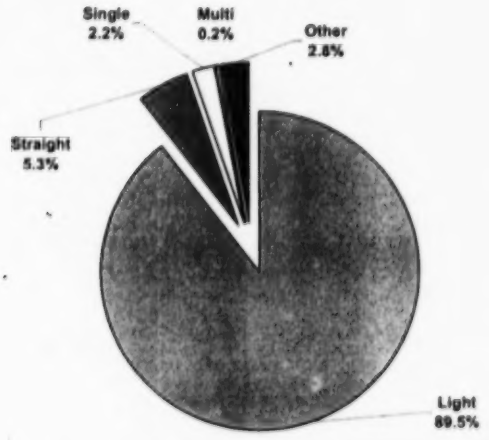
Chart 5.3C 10 Year History of Traffic on the Cecil Ferry



	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Vehicles	11 603	11 303	11 234	11 016	11 484	13 073	11 873	15 254	13 368	14 151
Passengers						24 098	22 112	28 819	24 310	24 015
ADT		59	57	58	57	67	71	86	69	74
Truck %		10.9	10.9	10.8	9.5	10.1	9.1	10.0	9.1	7.7

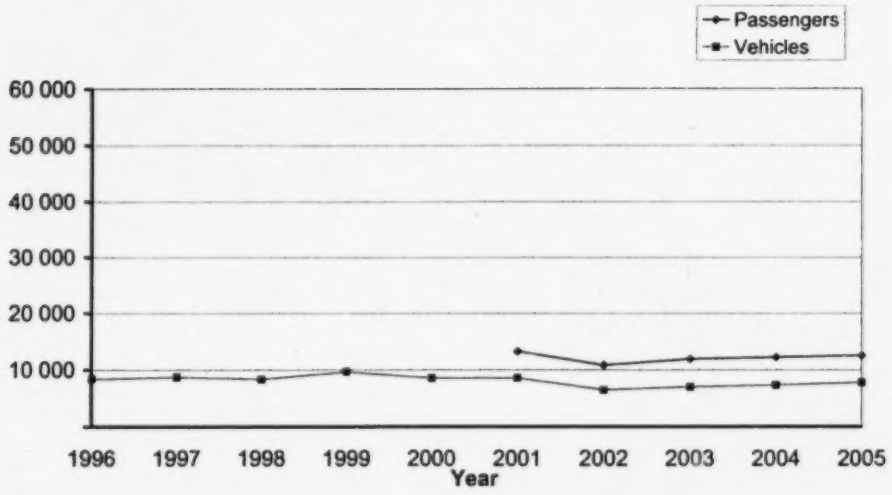
The 2005 Cecil ferry traffic increased from 2004 by 6 %. The ADT also increased by 6 % from 2004.

Chart 5.3D Vehicle Types Using the Cecil Ferry



Cecil has consistently carried a large proportion of trucks. The high percentage of straight trucks at Cecil indicates that it is on a short distance haul route.

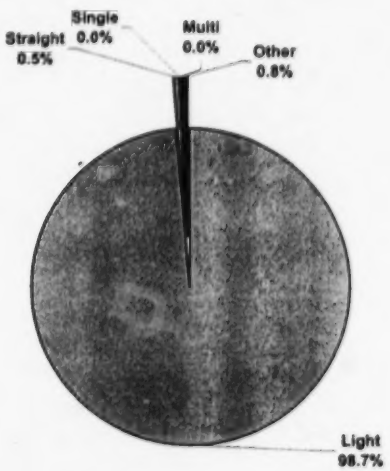
Chart 5.3E 10 Year History of Traffic on the Fenton Ferry



	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Vehicles	8 366	8 716	8 324	9 640	8 533	8 563	6 461	6 974	7 306	7 738
Passengers						13 236	10 835	11 909	12 209	12 517
ADT		45	43	51	45	45	40	41	38	43
Truck %		2.8	1.1	2.8	1.2	1.0	0.8	1.8	0.7	0.5

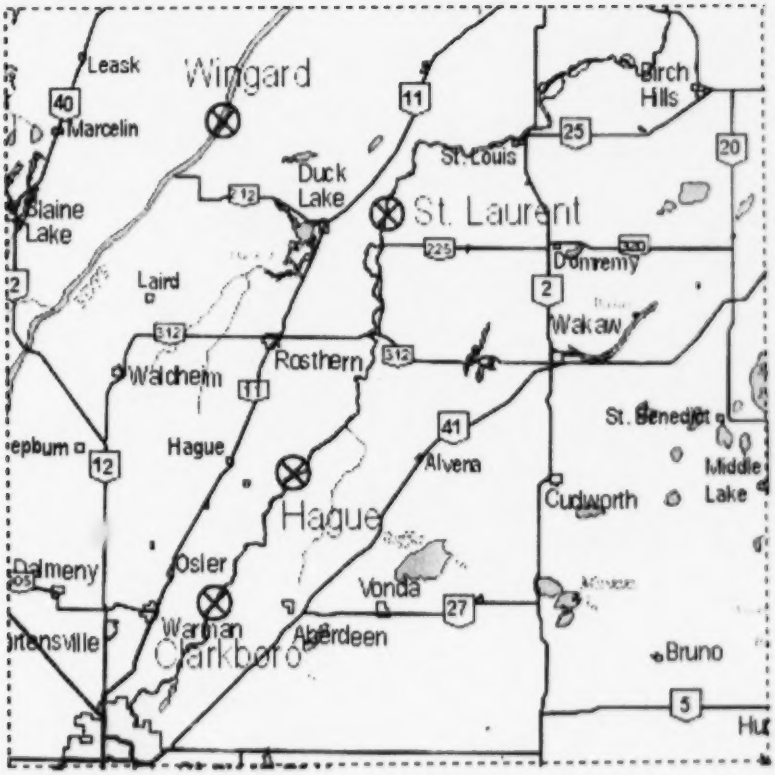
Traffic on the Fenton ferry increased 6 % in 2005 but was still below the 10 year average. The 2005 ADT increased by 13 % over 2004 and was very close to the nine year average.

Chart 5.3F Vehicle Types Using the Fenton Ferry



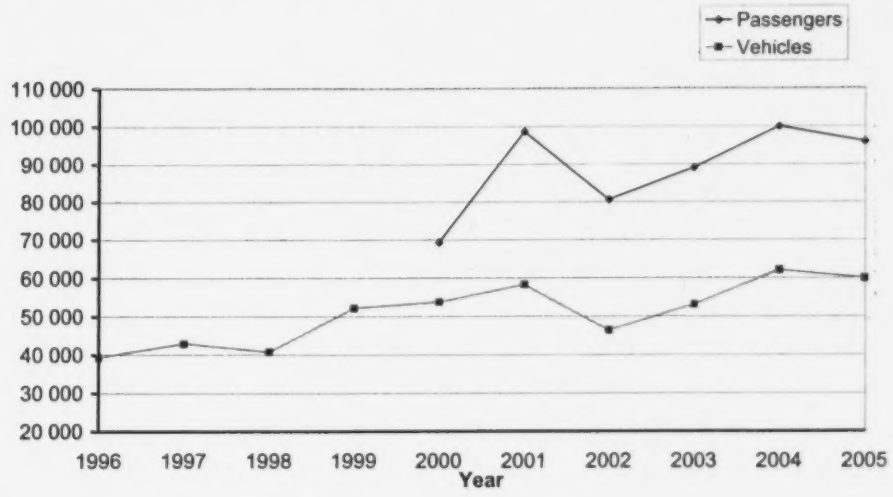
Traffic on the Fenton ferry was almost exclusively passenger vehicles.

5.4 Saskatoon Area



The Saskatoon area contains four ferries: Clarkboro, St. Laurent, Wingard and Hague.

Chart 5.4A 10 Year History of Traffic on the Clarkboro Ferry



	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Vehicles	39 338	42 991	40 839	52 185	53 780	58 303	46 374	53 066	62 005	59 852
Passengers					69 292	98 654	80 526	88 909	99 892	95 977
ADT		218	206	234	255	255	234	276	278	298
Truck %			3.6	4.0	4.6	5.0	3.9	4.4	4.0	4.9

Traffic on the Clarkboro ferry decreased by 3 % from 2004, but was still well above the 10 year average. ADT increased by 7 % in 2005 to the highest value in nine years.

Chart 5.4B Vehicle Types Using the Clarkboro Ferry

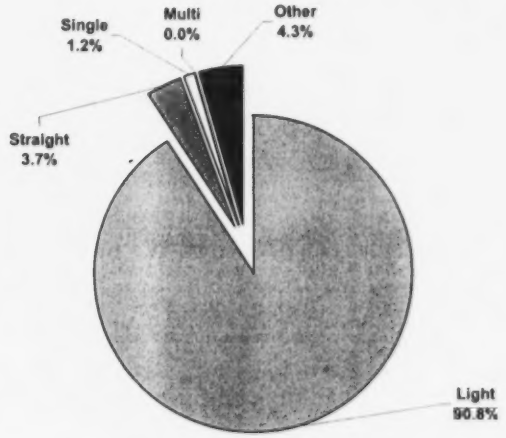
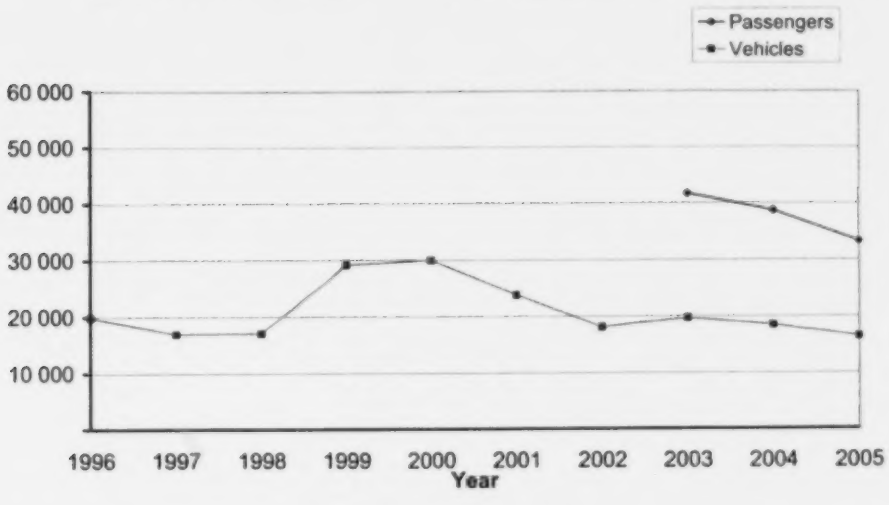


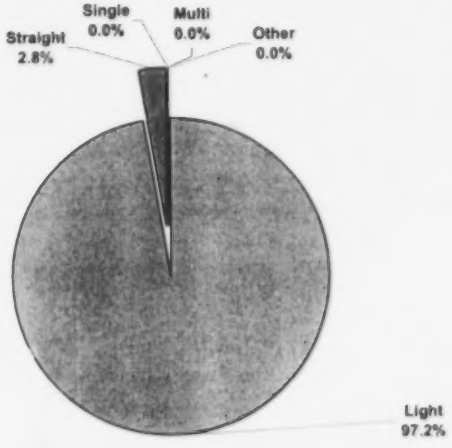
Chart 5.4C 10 Year History of Traffic on the St. Laurent Ferry



	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Vehicles	19 875	16 987	17 133	29 143	29 980	23 796	18 102	19 661	18 474	16 438
Passengers								41 656	38 612	33 252
ADT		91	85	130	147	111	99	107	88	84
Truck %		2.4	1.6	1.8	1.9	2.6	3.8	1.6	1.2	2.8

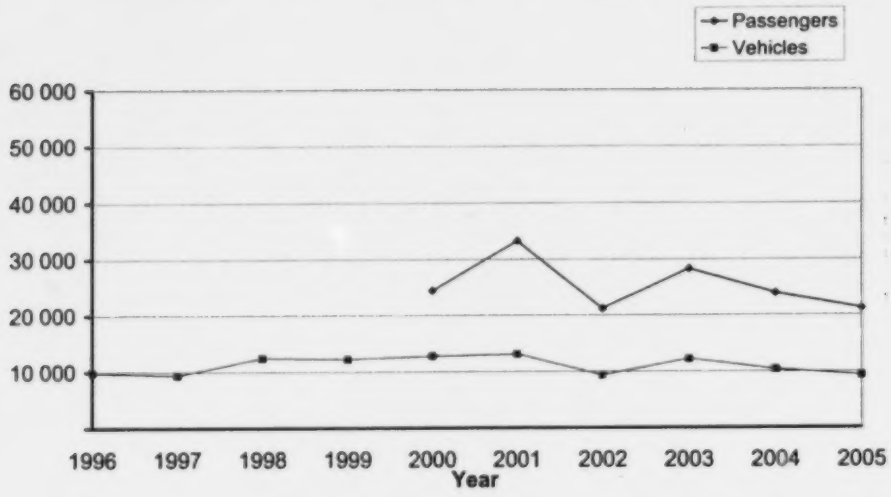
Traffic on the St. Laurent ferry decreased by 11 % in 2005 to the lowest volume in 10 years. The 2005 ADT was the lowest volume in the last nine years.

Chart 5.4D Vehicle Types Using the St. Laurent Ferry



The St. Laurent ferry carries predominantly passenger vehicles.

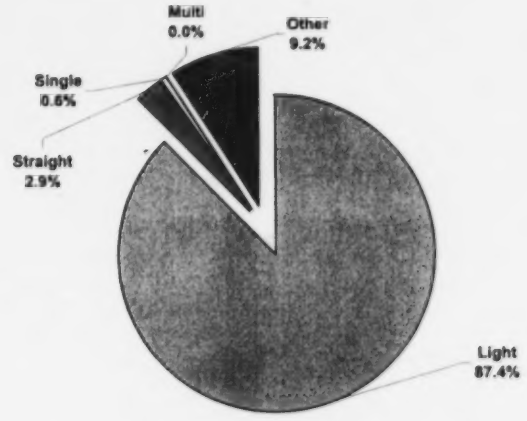
Chart 5.4E 10 Year History of Traffic on the Wingard Ferry



	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Vehicles	9 878	9 420	12 467	12 227	12 791	13 158	9 368	12 276	10 390	9 375
Passengers					24 417	33 260	21 271	28 299	23 954	21 305
ADT		50	63	63	63	66	54	66	54	49
Truck %		6.8	5.4	4.2	3.4	3.2	3.9	5.0	4.3	3.5

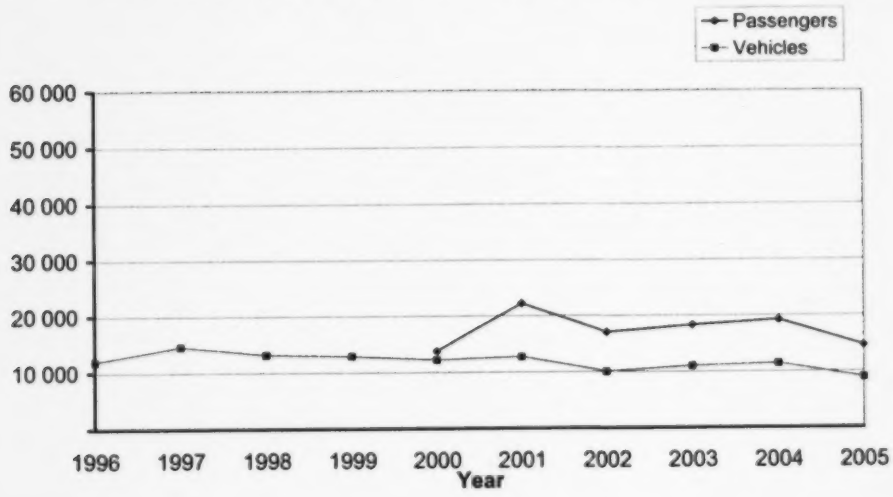
Traffic on the Wingard ferry decreased by 10 % from 2004. ADT decreased by 8 % in 2005. to the lowest volume in nine years.

Chart 5.4F Vehicle Types Using the Wingard Ferry



The Wingard ferry had the highest percentage of "other" vehicles.

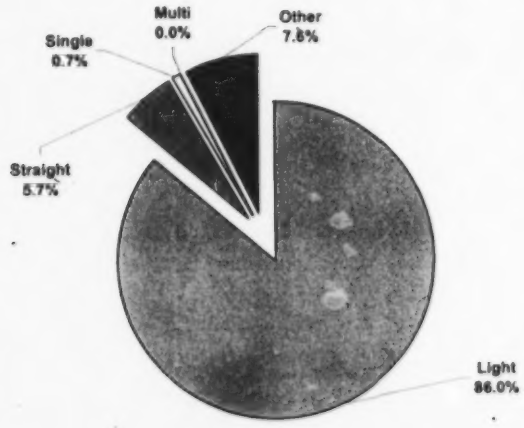
Chart 5.4G 10 Year History of Traffic on the Hague Ferry



	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Vehicles	11 961	14 577	13 122	12 845	12 156	12 652	10 006	10 963	11 368	8 906
Passengers					13 705	22 221	17 040	18 254	19 189	14 580
ADT		75	68	58	61	59	55	59	54	51
Truck %			12.5	6.4	6.4	4.6	4.8	6.4	5.1	6.4

Traffic on the Hague ferry decreased by 22 % over 2004, and was the lowest volume in the last 10 years. The 2005 ADT decreased by 6 % to the lowest value in nine years.

Chart 5.4H Vehicle Types Using the Hague Ferry

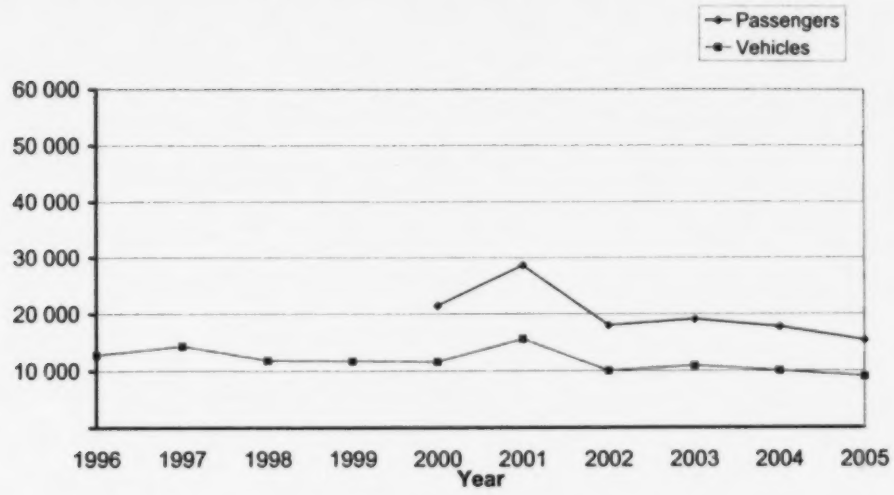


The Hague ferry had a high percentage of "other" vehicles.

5.5 Swift Current Area

The Swift Current area has three ferries: Lemsford, Estuary and Lancer.

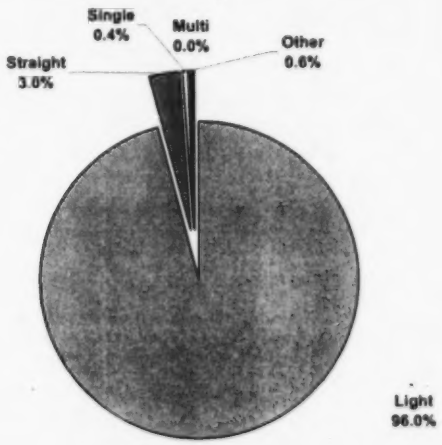
Chart 5.5A 10 Year History of Traffic on the Lemsford Ferry



	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Vehicles	12 805	14 393	11 849	11 730	11 623	15 659	10 031	10 885	10 040	9 042
Passengers					21 548	28 651	18 050	19 129	17 797	15 406
ADT		68	58	52	58	69	55	59	48	48
Truck %			4.0	3.9	3.6	2.5	5.2	5.8	5.1	3.4

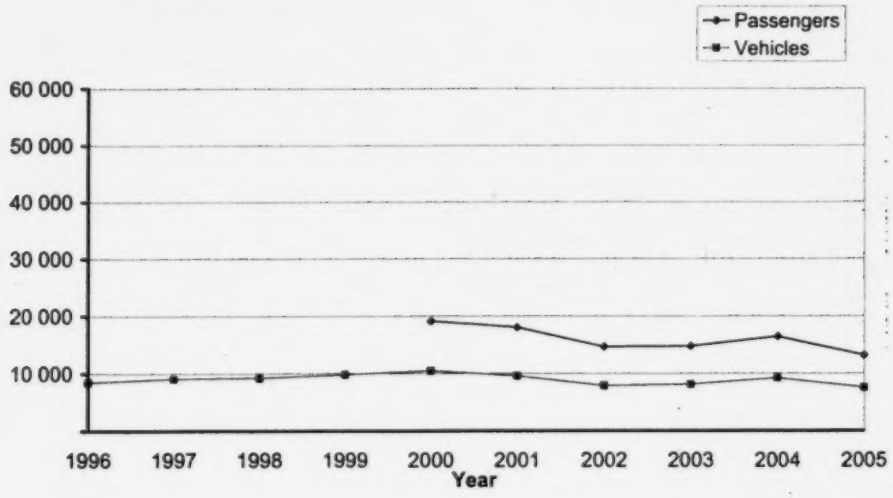
Traffic volume on the Lemsford ferry decreased by 10 % from 2004 and was the lowest volume in the last 10 years. The 2005 ADT was the same as the 2004 ADT, still the lowest in nine years.

Chart 5.5B Vehicle Types Using the Lemsford Ferry



The vast majority of traffic on the Lemsford ferry was passenger vehicles.

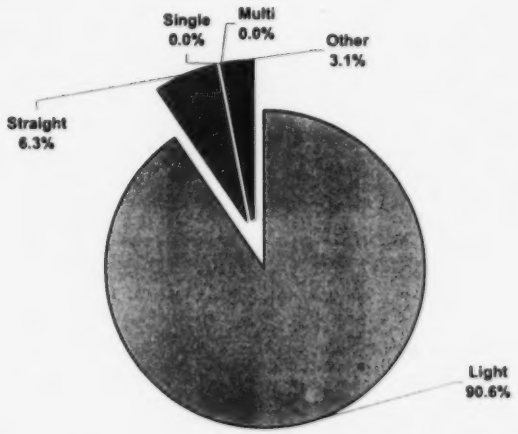
Chart 5.5C 10 Year History of Traffic on the Estuary Ferry



	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Vehicles	8 463	9 058	9 217	9 793	10 437	9 541	7 847	8 096	9 200	7 496
Passengers					19 152	18 045	14 631	14 728	16 435	13 156
ADT		44	47	44	52	48	48	49	46	44
Truck %			5.1	9.3	5.4	4.7	8.9	6.1	7.5	6.3

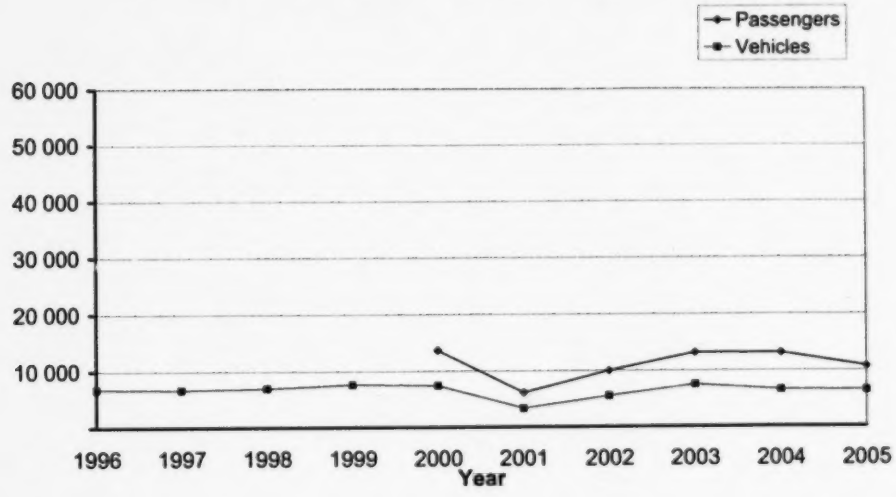
Traffic on the Estuary ferry decreased 19 % in 2005. The 2005 ADT was similar to the 2004 ADT.

Chart 5.5D Vehicle Types Using the Estuary Ferry



A large percentage of straight trucks used the Estuary ferry in 2005.

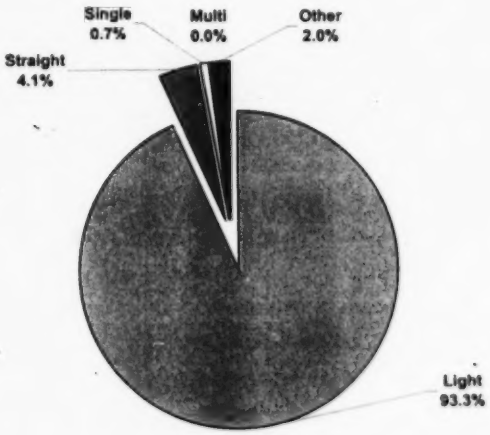
Chart 5.5E 10 Year History of Traffic on the Lancer Ferry



	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Vehicles	6 789	6 685	6 967	7 604	7 421	3 324	5 503	7 490	6 498	6 461
Passengers					13 668	6 113	9 992	13 174	13 090	10 694
ADT		33	33	34	37	34	32	40	31	37
Truck %			2.4	4.0	3.7	2.3	3.9	6.7	6.4	4.8

In 2005, the traffic on the Lancer ferry was similar to the 2004 volume and the 10 year average. The 2005 ADT increased by 19 % from 2004 and was slightly larger than the nine year average.

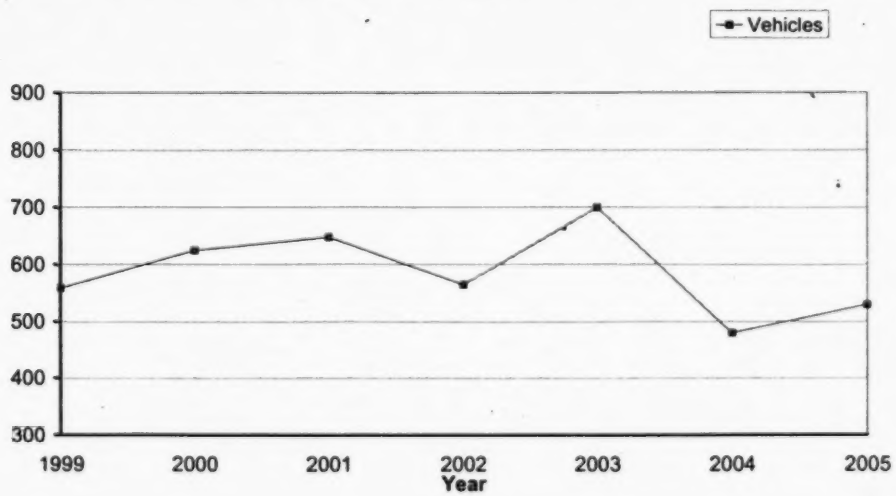
Chart 5.5F Vehicle Types Using the Lancer Ferry



5.6 Wollaston Barge Ferry

The Wollaston Barge ferry connects the community of Wollaston Lake to Highway 905. This vessel is unique because it is the only free-swimming ferry operated in the province and is the only ferry that charges a fee. The Hatchet Lake Denesuline First Nation operates the ferry under contract to the Department. The operational season at Wollaston Lake was shorter than other ferries in the province due to the northern location. This ferry carries significantly lower traffic volumes than the southern ferries because the length of the crossing allows a maximum of only three round trips each day.

Chart 5.6A Seven Year History of Traffic on the Wollaston Barge Ferry

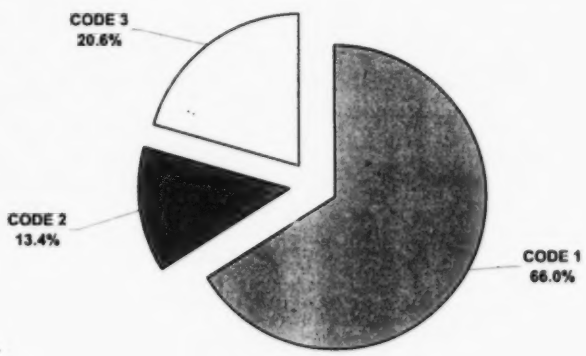


	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Vehicles				559	625	648	565	700	479	529
ADT				5	5	6	5	5	5	5
Truck %				38.3	42.7	41.5	45.0	42.6	38.8	34.0

In 2005, traffic on the Wollaston Barge ferry increased by 10 %. The 2005 ADT was similar to the 2004 ADT and the seven year average.

The vehicle classification system used at Wollaston is different than that used by the rest of the ferry system. The three codes used at the Wollaston Barge ferry are based on the fee structure charged to the different vehicle types.

Chart 5.6B Vehicle Types Using the Wollaston Barge Ferry



Code 1 - Single Light Vehicle - car, truck (less then a 1 ton), motorcycle, etc.

Code 2 - Other - includes single vehicles with trailer, trucks over one ton, etc.

Code 3 - Full - Any semi trailer, construction equipment, etc.

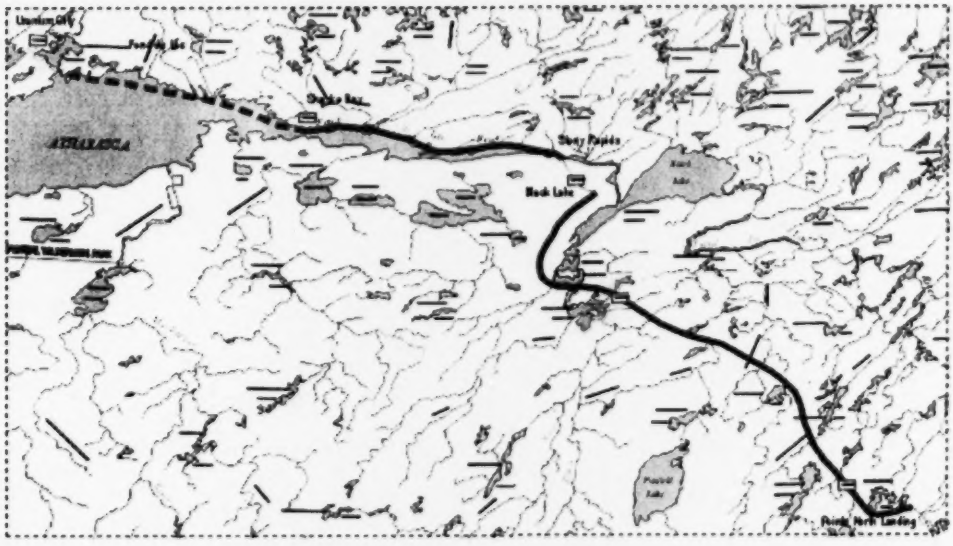
The Wollaston ferry carried the highest percentage of commercial vehicles in the province at approximately 34 %. Other than by air, this ferry provides the only summer access to Wollaston Lake. There are few passenger trips because the community is small and the trip to the nearest community is quite long.

6.0 Seasonal/Winter Roads

All four seasonal/winter roads were operated by the Department in 2005: the Cumberland House road (52 km), the Riverhurst road (2.4 km), the Wollaston Lake road (46 km) and the Athabasca road (358 km). The seasonal/winter roads are a vital link to the northern communities. They provide economical access to heavy and bulk commodities like fuel and building materials.

The length of the operating season for the seasonal/winter roads varies from year to year depending on winter conditions. Local traffic often uses the roads both before and after the official season. The ice has to be sufficiently thick and the road completely constructed before the Department officially allows travel on a seasonal/winter road.

6.1 Athabasca Seasonal/Winter Road



The Athabasca seasonal/winter road was maintained by the Athabasca Basin Development Corporation under contract to the Department. Four separate road sections form the Athabasca seasonal/winter road. Over 183 km from Points North to Black Lake is currently a bladed trail that requires extensive yearly repair work. The road from Stony Rapids to Shasko Bay was a winter-only road and the two sections from Shasko Bay to Uranium City are ice roads across Lake Athabasca.

The combined length of the seasonal/winter road sections from Points North to Uranium City was 358 km. The 2004-05 cost of building and maintaining the four seasonal/winter road sections was $1,406,164 for a unit cost of $3,928 per km. An estimated 3,200 vehicles used the road in 2005. Historical data for the sections are shown in the following tables.

Table VI. History of the Athabasca Seasonal/Winter Road (Points North to Black Lake)

Year	Opening	Closing	Length (days)	Length (km)	Cost
1999-00	01-Nov	31-Mar	152	180	$648,433
2000-01	06-Dec	31-Mar	116	180	$465,944
2001-02	06-Dec	12-Apr	128	180	$616,347
2002-03	N/A	N/A		180	$866,523
2003-04	N/A	31-Mar		183	$1,182,483
2004-05	N/A	04-Apr		183	$1,106,954

* There were no official opening or closing dates in 2003

Table VII History of the Athabasca Seasonal/Winter Road (Stony Rapids to Shasko Bay)

Year	Opening	Closing	Length (days)	Length (km)	Cost
1999-00	01-Feb	31-Mar	60	51	$145,019
2000-01	06-Dec	31-Mar	116	51	$370,361
2001-02	26-Feb	05-Apr	39	51	$95,459
2002-03	10-Feb	31-Mar	50	51	$106,195
2003-04	11-Feb	31-Mar	50	50	$62,185
2004-05	10-Feb	04-Apr	54	50	$96,918

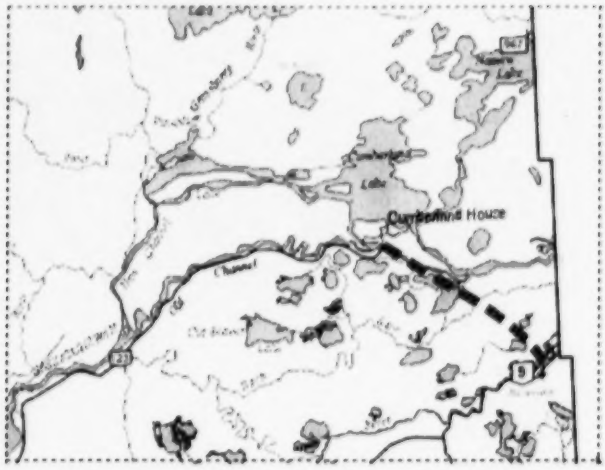
Table VIII. History of the Athabasca Seasonal/Winter Road (Shasko Bay to Fond du Lac)

Year	Opening	Closing	Length (days)	Length (km)	Cost
1999-00	N/A	31-Mar		32	$98,544
2000-01	08-Feb	31-Mar	52	32	$113,305
2001-02	26-Feb	05-Apr	39	32	$118,713
2002-03	10-Feb	31-Mar	50	32.6	$108,851
2003-04	11-Feb	31-Mar	50	32	$110,070
2004-05	10-Feb	04-Apr	54	32	$98,000

Table IX. History of the Athabasca Seasonal/Winter Road (Fond du Lac to Uranium City)

Year	Opening	Closing	Length (days)	Length (km)	Cost
1999-00	01-Mar	31-Mar	31	100	$15,318
2000-01	26-Feb	06-Mar	9	85	$39,359
2001-02	06-Mar	22-Mar	17	92	$37,572
2002-03	17-Feb	15-Mar	27	92	$99,208
2003-04	01-Mar	18-Mar	18	93	$60,000
2004-05	08-Mar	06-Apr	30	93	$104,292

6.2 *Cumberland House Winter Road*



The Cumberland House winter road was first operated in 1992-1993. The Cumberland House road was 52 km long and intersects with the north end of Highway 9 just west of the Manitoba boundary. The first 17 kms were significantly improved in 2004-05. The roadway was widened and sight distances were improved. These first 17 kms were maintained by Weyerhaeuser.

The winter road was open to traffic for 92 days in 2004-05. An estimated 10 to 15 vehicles per day used the road, for a total of 1150 vehicles during the operating season. Total Department expenditures for the Cumberland House road in the 2004-05 fiscal year were $46,575 for a unit cost of $896 per km or $506 per day of operation. The 10 year history of the Cumberland House winter road is shown in the table below.

Table X. 10 Year History of the Cumberland Winter Road

Year	Opening	Closing	Length (days)	Cost
1995-96	01-Dec	12-Mar	103	$50,145*
1996-97	05-Jan	26-Mar	81	$19,702
1997-98	19-Jan	24-Mar	65	$3,610
1998-99	08-Dec	03-Mar	86	$4,524
1999-00	05-Jan	22-Mar	78	$4,500
2000-01	03-Jan	14-Mar	71	$14,242
2001-02	11-Jan	28-Mar	77	$13,113
2002-03	22-Jan	21-Mar	59	$18,952
2003-04	30-Jan	02-Apr	64	$22,424
2004-05	30-Dec	31-Mar	92	$46,575**

* Significant Clearing and Grubbing Operation
** Widening and Sight Distance Improvements

6.3 *Riverhurst Winter Road*

The Riverhurst ice road has operated intermittently for many years. In years when an official road is opened, the Department establishes and maintains it. The Department may decide not to open the 2.4 km ice road if the ice does not become sufficiently thick early in the season. Often, local residents will create their own winter trail across the ice in the years that the Department opts not to open a winter road. There is no official operational record for those years.

The winter road was open to traffic for 31 days in 2005. An estimated 30 vehicles per day used the road in 2005, for a total of 930 vehicles during the operating season. Total expenditures for the Riverhurst road in the 2004-05 fiscal year were $21,000 for a unit cost of $8,750 per km or $677 per day of operation. The 10 year history of the Riverhurst winter road is shown in the table below.

Table XI. 10 Year History of the Riverhurst Ice Road

Year	Opening	Closing	Length(days)	Cost
1995-96	11-Jan	07-Apr	87	N/A
1996-97	20-Jan	20-Mar	60	N/A
1997-98	N/A	N/A		N/A
1998-99	01-Feb	19-Mar	47	N/A
1999-00	N/A	N/A		N/A
2000-01	04-Mar	12-Mar	9	N/A
2001-02	N/A	N/A		N/A
2002-03	21-Feb	15-Mar	23	$16,547
2003-04	04-Feb	10-Mar	36	$60,782
2004-05	04-Feb	06-Mar	31	$21,000

6.4 *Wollaston Lake Winter Road*

The Wollaston Lake ice road was 46 km long and crosses the ice on Wollaston Lake to provide access to the residents of the community of Wollaston Lake. The road was established and maintained by the Hatchet Lake Denesuline First Nation under contract to the Department. The total cost was $97,000 for a unit cost of $2,109 per km and $1,702 per day. An estimated 200 vehicles per week used the roadway, for a total of 1,630 vehicles during the operating season. The operational history of the Wollaston Lake ice road is shown in the table below.

Table XII. History of the Wollaston Lake Ice Road

Year	Opening	Closing	Length(days)	Cost
1997-98	11-Jan	31-Mar	80	$128,000
1998-99	15-Feb	31-Mar	45	$129,000
1999-00	17-Jan	31-Mar	75	$126,666
2000-01	20-Feb	08-Apr	46	$95,844
2001-02	12-Feb	05-Apr	53	$99,158
2002-03	10-Feb	05-Apr	55	$124,813
2003-04	18-Feb	31-Mar	43	$100,079
2004-05	09-Feb	06-Apr	57	$97,000

7.0 Conclusions

Year over year traffic fluctuations at individual ferries are related to the operating season length, river conditions and local economic activity. In 2005, the ferry system operated below the 10 year average traffic levels. Many ferries were closed for a significant number of days in June and July because of high water levels. Overall, the 2005 ADT was 2 % lower than the 2004 ADT.

7.1 Operating Season/Downtime

- The 2005 operating season length was similar to the 2004 season.
- As in previous years, the Riverhurst ferry had the longest operating season, extending into December.
- All cable-stayed ferries were shutdown for significant periods in 2005.
- All cable-stayed ferries, except Riverhurst, were shutdown in June and/or July because of high water levels.
- The shutdown period ranged from a low of 3.5 % of the operating season at Cecil to a high of 19.8 % at Hague.
- The Riverhurst ferry had recurring mechanical problems in July and August.
- Seasonal/winter road operation was driven primarily by the timing and severity of winter weather.

7.2 Traffic Volumes

- Hague, Riverhurst, Estuary and St. Laurent all had over 10 % fewer vehicles in 2005 than in 2004.
- Only Wollaston Lake had over 10 % more vehicles in 2005 than in 2004.
- The 2005 ADT at Lancer and Fenton increased by over 10 % and by over 5 % at Clarkboro and Cecil compared with the 2004 ADT.
- The 2005 ADT at Riverhurst and Paynton dropped by over 10 % and by over 5 % at Wingard and Hague compared with the 2004 ADT.

7.3 Vehicle Classifications

- The Wingard, Riverhurst and Hague ferries had a high percentage of "other" vehicles, which are normally interpreted as farming and recreational vehicles.
- The Paynton, Estuary, Hague and Cecil ferries had a large percentage of straight trucks, which are used primarily for short distance hauling.
- Riverhurst, Cecil, and Paynton ferries had the highest percentage of single and multi trailer semi trucks.
- The Wollaston Barge ferry had the highest percentage of trucks.
- Only the St. Laurent, Hague and Clarkboro ferries had increased truck percentages in 2005 compared with 2004.

8.0 Recommendation

The Department require the operators of the Wollaston Barge ferry to collect passenger volumes and implement the vehicle type classification system used at the rest of the ferries.

Appendix A

Saskatchewan Highways and Transportation

Ferry Traffic Data Summary

Ferry crossing _____ Month of _____

Crossing time	LGT	Straight Trucks	Semi Trailer	Multi Trailer	No. Pass	Other	Comments
Totals							

Statement Certified Correct

_____

Ferry operator

KEY

LGT	-Cars & Pickups
Straight Trucks	-Non-articulated
Semi Trailer	-Single Trailer
Multi-Trailer	-2 or more Trailers

Notes:

1) "Other" includes farm or construction equipment etc.
2) Give details in "Comments" ie: dangerous goods, equipment type, product hauled etc.

Saskatchewan Highways and Transportation

Ferry Traffic Data Summary

Ferry crossing_____ File No._____ Month of_____, 200___

Shift						
Day	LGT	Straight Trucks	Semi Trailer	Multi Trailer	No. Pass	Other
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						
21						
22						
23						
24						
25						
26						
27						
28						
29						
30						
31						
Totals						

Statement Certified Correct

_____

Ferry operator

KEY

LGT	-Cars & Pickups
Straight Trucks	-Non-articulated
Semi Trailer	-Single Trailer
Multi-Trailer	-2 or more Trailers

Notes:

1) "Other" includes farm or construction equipment etc.
2) Give details in "Comments" ie: dangerous goods, equipment type, product hauled etc.

Riverhurst Ferry Traffic Data

Sheet No. _____

Date_____ Shift_____ Operators 1. _____ 2. _____

Departure Time	LGT	Straight Trucks	Semi Trailer	Multi Trailer	Other	Pass-engers	Comments	Engine R.P.M.	Weather Wind(Kmh)	Sky	Surface	Temp
Totals												

Statement Certified Correct

_____

Ferry operator

Regular crew Name (please print)	Casual crew called Name	Accept	Refuse

		Main Engine	Genset 1	Genset 2
Hourmeter	Start			
	Finish			
Engine oil pressure				
Engine Coolant temp.				
Torque Converter Temp.				
Torque Converter Pres.				
Engine oil added				
Engine Coolant added				
Torque Conv. oil added				
Transmission oil added				
Final drive oil added				
Hydraulic oil	East Ramp_____		West Ramp_____	

Remarks (Weather, Servicing, etc) _____

Appendix B

2005 Ferry Downtime

Ferry	Date	Hours	2005 Total Downtime	% of Time Out of Service	Reason
Clarkboro	June 20 to July 12	374	374	9.9	High Waters
Paynton	June 22 to 30	136	136	4.0	High Waters
Riverhurst	May 31 to June2	51			Semi Accident
	July 13	1			Wind
	July 14 to 19	119			Mechanical Repairs
	July 20 to 21	15			Mechanical Repairs
	July 24 to 26	50			Cable Repairs
	July 27 to 29	54			Mechanical Repairs
	July 30 to August 6	157			Mechanical Repairs
	September 11	12			Wind
	October 25	1			Cable Repairs
	November 3 to 7	88	548	9.4	Mechanical Repairs
Weldon	June 20 to July 11	357	357	10.4	High Waters
St. Laurent	June 16 to July 12	442	442	11.8	High Waters
Cecil	June 25 to July 2	119	119	3.5	High Waters
Wingard	June 25 to July 8	221			High Waters
	September 19	17	238	6.9	High Waters
Lemsford	June 10 to 18	147			High Waters
	June 21 to 28	119			High Waters
	July 1 to 4	51	317	8.9	High Waters
Hague	June 11 to July 15	578			High Waters
	September 15 to 24	153	731	19.8	High Waters
Fenton	June 20 to July 11	357	357	10.4	High Waters
Estuary	June 7 to July 11	578			High Waters
	September 14 to 19	77	655	18.6	High Waters
Lancer	June 9 to July 10	527			High Waters
	September 17 to 19	34	561	15.9	High Waters

Appendix C

Historic Traffic Volumes

Ferry	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	Average
Clarkboro	34 291	37 284	34 674	42 448	31 975	39 338	42 991	40 839	52 185	53 780	58 303	46 374	53 066	62 005	59 852	**45 960**
Paynton	28 662	34 293	42 058	30 686	30 453	30 172	34 365	32 453	28 808	33 749	31 348	28 910	32 603	33 996	31 155	**32 247**
Riverhurst	32 613	38 835	40 242	40 076	41 291	36 449	50 766	45 763	42 424	50 010	47 867	37 578	34 288	34 258	27 829	**40 019**
Weldon	27 586	28 460	24 754	30 465	26 268	29 657	29 455	28 003	30 382	27 770	25 875	22 461	25 308	27 709	26 124	**27 352**
St.Laurent	25 842	24 017	18 556	20 421	30 030	19 875	16 987	17 133	29 143	29 980	23 796	18 102	19 661	18 474	16 438	**21 897**
Cecil	12 054	13 887	13 210	12 752	12 678	11 603	11 303	11 234	11 016	11 484	13 073	11 873	15 254	13 368	14 151	**12 596**
Wingard	9 511	10 628	10 115	10 719	10 687	9 878	9 420	12 467	12 227	12 791	13 158	9 368	12 276	10 390	9 375	**10 867**
Lemsford	13 368	13 588	13 381	13 471	12 170	12 805	14 393	11 849	11 730	11 623	15 659	10 031	10 885	10 040	9 042	**12 269**
Hague	13 258	15 700	20 883	14 442	12 425	11 961	14 577	13 122	12 845	12 156	12 652	10 006	10 963	11 368	8 906	**13 018**
Fenton	3 079	7 394	6 517	9 730	8 582	8 366	8 716	8 324	9 640	8 533	8 563	6 461	6 974	7 306	*7 736*	***7 726***
Estuary	7 172	7 900	8 153	7 278	6 844	8 463	9 058	9 217	9 793	10 437	9 541	7 847	8 096	9 200	7 496	**8 433**
Lancer	5 779	6 928	7 047	7 649	5 673	6 789	6 685	6 967	7 604	7 421	3 324	5 503	7 490	6 498	6 461	**6 521**
Wollaston Barge									559	625	648	565	700	479	529	**586**
Cumberland	20 891	23 192	24 000	23 041	28 198	19 082	Closed	Closed	Closed	Closed	Closed	Closed	Closed	Closed	Closed	**23 067**
Total	**234 106**	**262 106**	**263 590**	**263 178**	**257 274**	**244 438**	**248 716**	**237 371**	**258 356**	**270 359**	**263 807**	**215 079**	**237 564**	**245 091**	**225 096**	**248 409**

Appendix D

Historic Average Daily Traffic (ADT)

Ferry	1997	1998	1999	2000	2001	2002	2003	2004	2005	Average
Clarkboro	218	206	234	255	255	234	276	278	298	**250**
Paynton	210	159	141	170	158	167	175	180	161	**169**
Riverhurst	213	190	174	216	204	176	169	153	127	**180**
Weldon	153	142	159	141	135	133	142	141	144	**143**
St.Laurent	91	85	130	147	111	99	107	88	84	**105**
Cecil	59	57	58	57	67	71	86	69	74	**67**
Wingard	50	63	63	63	66	54	66	54	49	**59**
Lemsford	68	58	52	58	69	55	59	48	48	**57**
Hague	75	68	58	61	59	55	59	54	51	**60**
Fenton	45	43	51	45	45	40	41	38	43	**44**
Estuary	44	47	44	52	48	48	49	46	44	**47**
Lancer	33	33	34	37	34	32	40	31	37	**35**
Wollaston Barge			5	5	6	5	5	5	5	**5**
Total	**1 261**	**1 152**	**1 204**	**1 307**	**1 255**	**1 171**	**1 276**	**1 184**	**1 165**	**1 219**

Appendix E

Historic Passenger Volumes

Ferry	2000	2001	2002	2003	2004	2005	Average
Clarkboro	69 292	98 654	80 526	88 909	99 892	95 977	**88 875**
Paynton	60 119	55 475	50 577	56 014	57 743	54 100	**55 671**
Riverhurst	100 979	90 056	70 700	66 422	63 193	51 692	**73 840**
Weldon	N/A	49 555	44 007	48 249	54 082	51 835	**49 546**
St.Laurent	N/A	N/A	N/A	41 656	38 612	33 252	**37 840**
Cecil	N/A	24 098	22 112	28 819	24 310	24 015	**24 671**
Wingard	24 417	33 260	21 271	28 299	23 954	21 305	**25 418**
Lemsford	21 548	28 651	18 050	19 129	17 797	15 406	**20 097**
Hague	13 705	22 221	17 040	18 254	19 189	14 580	**17 498**
Fenton	N/A	13 236	10 835	11 909	12 209	12 517	**12 141**
Estuary	19 152	18 045	14 631	14 728	16 435	13 156	**16 025**
Lancer	13 668	6 113	9 992	13 174	13 090	10 694	**11 122**
Total	**322 880**	**439 364**	**359 741**	**435 562**	**440 506**	**398 529**	**399 430**